

### ABSTRACT OF THE DISCLOSURE

An engine startup fuel control system for use with an internal combustion engine of the type having a plurality of combustion chambers, an air intake passage fluidly connected to each combustion chamber and a source of fuel. The system includes a multipoint fuel injector associated with each combustion chamber in which the multipoint fuel injector has an inlet connected to the fuel source and an outlet fluidly connected to the intake air passageway adjacent its associated combustion chamber. A cold start fuel injector also has an inlet connected to the fuel source and an outlet connected through a cold start passageway with each combustion chamber. A processing circuit selectively activates the multipoint fuel injectors as well as the cold start fuel injector. The processing circuit determines the air/fuel mixture introduced by the cold start fuel injector into each combustion chamber during engine startup and then selectively activates the multipoint fuel injectors to achieve a predetermined air/fuel mixture in each combustion chamber during engine startup. The processing circuit also variably retards the ignition of the combustion charge within at least one of the combustion chambers to achieve faster heating of a catalytic converter. Furthermore, the cold start fuel injector is optionally activated in a plurality of spaced subpulses for each combustion charge provided to each combustion chamber.